

Appln. No. 09/840,193
Amendment dated May 15, 2007
Reply to Office Action of February 21, 2007

Amendments to the Claims:

Please amend claim 33 and add new claim 36 as follows. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Cancelled).

Claim 2 (Previously Presented). The radiation image processing apparatus according to Claim 33, wherein the contour recognizing section judges the kind of recognized contour based on a position change of a boundary of the object region.

Claim 3 (Previously Presented). The radiation image processing apparatus according to Claim 2, wherein the contour recognizing section comprises:

a region boundary point detecting section that detects a
5 boundary of the object region,

a position change amount calculating section that calculates
a position change amount of the boundary of the object region

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from plural region boundary points detected by the region
boundary point detecting section, and

- 10 a contour specifying section that specifies the kind of
recognized contour from the position change amount calculated by
the position change amount calculating section.

Claim 4 (Original). The radiation image processing
apparatus according to Claim 3, wherein the position change
amount is a distance between neighboring region boundary points.

- Claim 5 (Previously Presented). The radiation image
processing apparatus according to Claim 3, wherein the position
change amount is an amount of change in coordinates between
neighboring region boundary points in one or both of the
5 horizontal and vertical directions.

Claim 6 (Previously Presented). The radiation image
processing apparatus according to Claim 33, wherein the contour
recognizing section judges the kind of recognized contour based
on local region widths of the object region.

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Claim 7 (Previously Presented). The radiation image processing apparatus according to Claim 6, wherein the contour recognizing section comprises:

5 a region boundary point detecting section which detects a boundary of the object region,

a region width calculating section which calculates local region widths of the object region from plural region boundary points detected by the region boundary point detecting section, and

10 a contour specifying section which specifies the kind of recognized contour from the region widths calculated by the region width calculating section.

Claim 8 (Previously Presented). The radiation image processing apparatus according to claim 33, wherein the body part of the object is recognized by using the feature amount obtained in the contour recognizing section.

Claim 9 (Previously Presented). The radiation image processing apparatus according to Claim 33, further comprising a radiographing orientation judging section which judges a radiographing orientation for the object from the contour based
5 on the feature amount.

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Claims 10-32 (Cancelled).

Claim 33 (Currently Amended). A radiation image processing apparatus for conducting a graduation conversion process for radiation image data of a radiographed body part ~~which identifies a contour of a radiographed body part and determines to which one of a plurality of predetermined different contour types~~
5 ~~corresponding to a plurality of different kinds of body parts the radiographed body part belongs,~~ the apparatus comprising:

an object region extracting section that receives a set of two-dimensionally-arranged radiation image data including the
10 radiation image data of the radiographed body part and extracts an object region formed by the radiation image data of the radiographed body part from the set of two-dimensionally-arranged radiation image data;

a contour recognizing section having contour type
15 classification criteria data for each of ~~[[the]]~~ a plurality of predetermined-different contour types corresponding to ~~[[the]]~~ a plurality of different kinds of body parts including a chest, an abdomen and a leg, wherein the contour recognizing section recognizes a contour of the extracted object region, and
20 determines to which one of the plurality of different contour

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types the recognized contour belongs based on the data of contour type classification criteria, and

an image processing section having a plurality of different image processing conditions for the gradation conversion process,

25 which selects one of the plurality of different image processing conditions in accordance with the determined one of the plurality of different contour types and conducts ~~an image processing the~~
gradation conversion process for the radiation image data of the radiographed body part based on the selected one of the plurality
30 of different image processing conditions.

Claim 34 (Previously Presented). The radiation image processing apparatus of claim 33, wherein the contour recognizing section provides a feature amount to the recognized contour in accordance with the determined one of the plurality of different
5 contour types.

Claim 35 (Previously Presented). The radiation image processing apparatus of claim 33, wherein the plurality of predetermined-different contour types includes a square type, a rectangular type and a barrel type.

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Claim 36 (New). The radiation image processing apparatus of
claim 33, further comprising:

a control section to control the object region extracting
section, the contour recognizing section and the image processing
5 section so as to conduct the gradation conversion process
automatically.